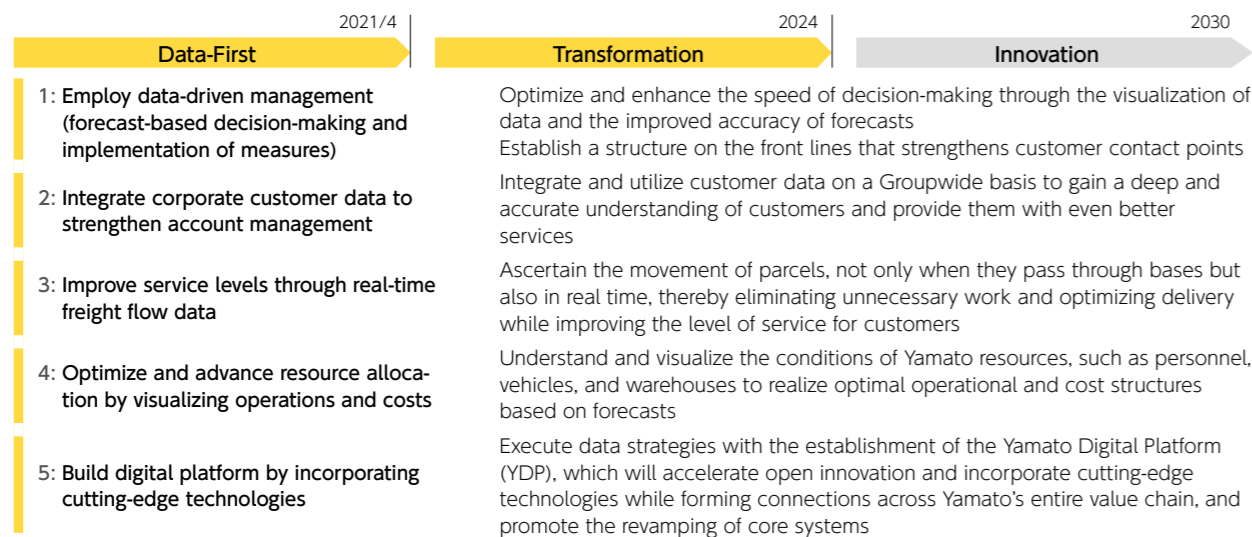# Promotion of Digital Strategies for the Shift to Data-Driven Management

We are promoting Groupwide digital transformation (DX) with the aim of changing the organization and operations and of drastically reforming all of our Group businesses though digital technology. With the shift to data-driven management as a fundamental strategy, in addition to updating the existing core systems, we are engaging in the maintenance of digital data and the strengthening of our digital foundation to further advance the utilization of data. We are supporting the digital aspects of our growth strategy through expansion of the Yamato Digital Platform (YDP), which focuses on data acquisition mechanisms that utilize cutting-edge cloud technology.

▶ Shift to Data-Driven Management

The Yamato Group is led by the Digital Function Division, which deploys approximately 270 internal DX personnel, and is promoting DX initiatives in collaboration with each business division and function division while also utilizing the knowledge of external partners. Under the medium-term management plan "One Yamato 2023," which concludes in the fiscal year ending March 31, 2024, we expect to make digital investments of ¥100 billion. We are also promoting the creation of a system infrastructure that supports the implementation of data-driven management and the acceleration of business development.

2021/4	2024	2030
Data-First	Transformation	Innovation

1: Employ data-driven management (forecast-based decision-making and implementation of measures)	Optimize and enhance the speed of decision-making through the visualization of data and the improved accuracy of forecasts Establish a structure on the front lines that strengthens customer contact points
2: Integrate corporate customer data to strengthen account management	Integrate and utilize customer data on a Groupwide basis to gain a deep and accurate understanding of customers and provide them with even better services
3: Improve service levels through real-time freight flow data	Ascertain the movement of parcels, not only when they pass through bases but also in real time, thereby eliminating unnecessary work and optimizing delivery while improving the level of service for customers
4: Optimize and advance resource allocation by visualizing operations and costs	Understand and visualize the conditions of Yamato resources, such as personnel, vehicles, and warehouses to realize optimal operational and cost structures based on forecasts
5: Build digital platform by incorporating cutting-edge technologies	Execute data strategies with the establishment of the Yamato Digital Platform (YDP), which will accelerate open innovation and incorporate cutting-edge technologies while forming connections across Yamato's entire value chain, and promote the revamping of core systems

● Promotion of Optimal Allocation of "Operational Design" by Forecasting Workload Based on Data Analysis

The existing *TA-Q-BIN* operations relied on experience and intuition to deploy management resources (personnel, vehicles, facilities, and other resources) at the branch level in each region. This led to issues such as the actual workload becoming unreasonable and wasteful and a lack of flexibility to cope with regional and seasonal differences in workload as the allocation of management resources was optimized for each region.

To resolve these issues, we are promoting structural reform based on the transformation plan "YAMATO NEXT100," which began in the fiscal year ended March 31, 2021, and striving to use data analytics to forecast workloads and improve truck loading efficiency to realize the optimal allocation of management resources. From the fiscal year ending March 31, 2022, we have created an environment for carrying out machine learning operations (MLOps) and automated

the process for taking in the latest business performance data, learning the data, and running it through a machine learning model that forecasts future workloads based on past business performance results. As a result, we have been able to more accurately forecast the workload and necessary number of vehicles for each of our approximately 3,500* *TA-Q-BIN* centers three months in advance by improving processing speed and the frequency of machine learning. By combining the knowledge we have accumulated on the front line with the latest information regarding these forecasts and large- and medium-lot corporate clients collected by the account manager, the Retail Business Division is promoting the optimal allocation of resources and the optimization of costs and is striving to provide stable operations and enhance profitability.

* As of September 30, 2021

DX Initiatives That Support the Creation of an EC Ecosystem

EAZY, a delivery service for the EC market, is promoting the enhancement of customer experiences and the optimization of operations by utilizing various digital data based on the newly created system infrastructure, rather than the existing core system.

● Provision of New Pickup Services for EC Users

Launch of Field Tests for More Secure *Okihai* Delivery System That Utilizes a Digital Key

Our *EAZY* service can provide *okihai* deliveries, such as drop-off deliveries at the doorstep, according to our customers' wishes. However, we have been unable to make deliveries at condominiums with auto-locks, despite the customer requesting *okihai* delivery, because the number of delivery boxes is limited and the outer door cannot be unlocked if the recipient is not at home. Furthermore, from a security standpoint there have been concerns about non-residents easily entering condominiums.

Therefore, we developed a platform capable of managing the digital keys of numerous companies and commenced field tests in March 2021 for a new feature of *EAZY* that can unlock the auto-lock outer doors using these digital keys. Through this feature, we will achieve enhanced convenience for customers based on high levels of security by issuing a one-time password for unlocking the outer doors to a specialized app for EAZY CREW.

We will continue with field tests aimed at commercialization and aim to expand to approximately 10,000 buildings across Japan during the fiscal year ending March 31, 2022.

▶ **When Customers Living in Condominiums Choose *Okihai* Delivery in Front of their Doorstep**

Issue a one-time password to EAZY CREW devices → Unlock entrance → EAZY CREW drops off package

Launch of Delivery via 2D Barcode Slip with Aim of Reducing the Risk of Personal Information Leaks during *Okihai* Delivery

As contactless delivery becomes more widespread, some customers are concerned about the risk of personal information leaks when packages with the receiver's information are delivered through *okihai* delivery.

In June 2021, through collaboration with EC operators, we commenced deliveries using a 2D barcode slip that enables customers to pick up their deliveries safely. By using a 2D barcode slip, users can safely choose the *okihai* delivery option and we can reduce the risk of leaks as the receiver's personal information is not displayed on the package.

▶ **2D Barcode Slip Service**

Avoid leaks of personal information to third parties

● Introduction of a Delivery Support App with the Aim of Enhancing Delivery Efficiency for EAZY CREW

We introduced a specialized app for *EAZY* operations in response to an increase in pickup options, such as *okihai*, to achieve efficient delivery for the EAZY CREW.

🚚 Support for Delivery Operations

We create delivery routes based on delivery times and addresses by digitalizing the information on delivery slips. Additionally, we support the efficient delivery operations of the EAZY CREW by displaying delivery locations on a map.

📦 Standardization and Optimization of Vehicle Loading Operations

We visually display where packages should be placed in a vehicle based on the delivery route when reading the barcode on the delivery slip. We reduced the time taken to pack a vehicle by approximately 20% during field tests, as even beginners can carry out operations efficiently based on the screen display.

▶ **Vehicle Packing Screen**

Automatic configuration of packing location